



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/336,363

06/17/1999

KOJI MATSUYAMA

FUJO16.216

7540

26304

7590

03/31/2010

KATTEN MUCHIN ROSENMAN LLP
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER

KIM, KEVIN

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

03/31/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KOJI MATSUYAMA, MASAHIKO SHIMIZU,
and TAKESHI INOUE

Appeal 2009-008432
Application 09/336,363
Technology Center 2600

Decided: March 31, 2010

Before JOSEPH F. RUGGIERO, ELENI MANTIS MERCADER,
and BRADLEY W. BAUMEISTER, *Administrative Patent Judges*.

MANTIS MERCADER, Administrative Patent Judge.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Final Rejection of claims 13, 14, 17, and 18. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

INVENTION

Appellants' claimed invention is directed to a mobile station corresponding to DS-CDMA which removes a lag between timings and effects of fading (Spec. 11:9-13) by using a storage unit for storing a transmitted signal in a demodulator of a direct sequence CDMA signal (Spec. 11:14-17).

Claim 13, reproduced below, is representative of the subject matter on appeal:

13. A mobile station corresponding to DS-CDMA performing a first correlation determination between a received signal and a common spreading code with regard to a plurality of base stations by shifting a relative timing between the received signal and the common spreading code, and performing a second correlation determination between the received signal and a plurality of kinds of spreading codes that are respectively different from the common spreading code based on a timing obtained by the first correlation determination, said mobile station comprising:

a storage unit storing the received signal over a time long enough to perform both the first correlation determination and the second correlation determination; and

a control unit using [sic: the] same received signal having been stored in the storage unit for performing the first and second correlation determinations.

THE REJECTION

The Examiner relies upon the following as evidence of unpatentability:

Sawahashi	US 5,768,306	Jun. 16, 1998
-----------	--------------	---------------

Appellants' Admitted Prior Art (AAPA) is directed towards Figure 1 of Appellants' disclosure.

The Examiner rejected claims 13, 14, 17, and 18 under 35 U.S.C. § 103(a) as being obvious in view of AAPA and Sawahashi.

ISSUE

Does the Examiner's articulated reasoning support the conclusion that it would have been obvious to modify Figure 1 of AAPA so as to introduce a storage and control unit as taught by Sawahashi?

FINDINGS OF FACT (FF)

The following Findings of Fact are supported by a preponderance of the evidence:

1. AAPA Figure 1 is reproduced below:

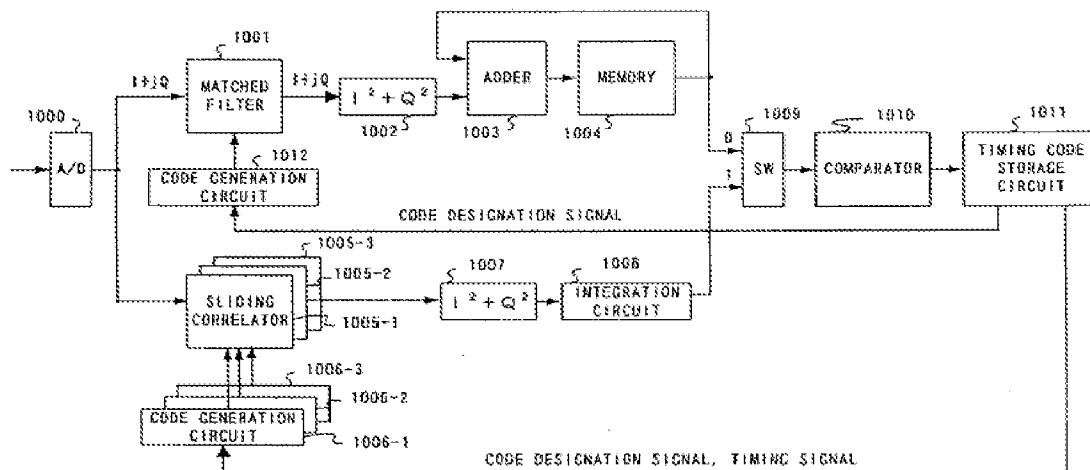


FIG. 1 PRIOR ART

Figure 1 illustrates a receiver that performs a first correlation (1001) and a second correlation (1005).

AAPA of Figure 1 shows a receiver that performs a first correlation (1001) between a received signal and a preassigned spreading code (1012) and a second correlation (1005) between the received signal and a plurality of spreading codes (1006), based on the timing determined from the first correlation operation (Spec. 8:18–9:1).

2. Sawahashi's memory 43 (Fig. 4) stores a received signal (col. 6, ll. 7-8).
3. Sawahashi teaches that the stored signal is read out from the memory at a rate higher than the chip rate under control of a control unit (41) and correlated with a pre-assigned spreading code (col. 6, ll. 13-19).
4. Sawahashi teaches that the phase of the spreading code is adjusted and correlated with the same received signal that is again read from the memory, until the correlation value exceeds a predetermined threshold (col. 6, ll. 24-36).
5. Sawahashi teaches that storing a received signal in a memory allows the same received signal to be repeatedly correlated with a spreading code, each time with a different phase, during one chip period so that a faster initial synchronization can be established (col. 6, ll. 37-51).

PRINCIPLES OF LAW

The Examiner's articulated reasoning in the rejection must possess a "rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). The Supreme Court stated that "rejections on obviousness grounds cannot be sustained by mere conclusory

statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *Kahn*, 441 F.3d at 988). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

ANALYSIS

Appellants argue that the Examiner has not provided any motivation or suggestion from either reference, or any objective reason other than improper hindsight from the claimed invention itself, to store a received signal any longer than is necessary for a particular synchronization to span a common code synchronization and a subsequent correlation with a plurality of kinds of different codes (App. Br. 13).

The Examiner relied on AAPA, depicted in Figure 1, to show a receiver that performs a first correlation (1001) between a received signal and a preassigned spreading code (1012) and a second correlation (1005) between the received signal and a plurality of spreading codes (1006), based on the timing determined from the first correlation operation (FF 1). The Examiner acknowledged that AAPA failed to teach “a storage unit” for storing the received signal and “a control unit” using the stored signal for performing the first and second correlations.

The Examiner then relied on Sawahashi’s memory 43, which stores a received signal (FF 2). Sawahashi teaches that the stored signal is read out from the memory at a rate higher than the chip rate under control of a control

unit 41 and correlated with a pre-assigned spreading code (FF 3). The phase of the spreading code is adjusted and correlated with the same received signal that is again read from the memory, until the correlation value exceeds a predetermined threshold (FF 4). The storing of a received signal in a memory allows the same received signal to be repeatedly correlated with a spreading code, each time with a different phase, during one chip period so that a faster initial synchronization can be established (FF 5).

The Examiner reasoned (Ans. 3-4) that since the same spreading code would have been used for both the first and second correlations when the prior art references are combined as proposed by the Examiner, it is only natural that the received signal must be stored in the storage unit, i.e., a memory, for a period of time at least until both correlation determinations have been performed.

The Examiner articulated as a rationale to combine the references that the storage unit of Sawahashi, i.e., a memory, for storing the received signal in the prior art receiver and a control unit to read the received signal from the memory to correlators (1001 and 1005), would allow repeated correlation of the received signal with varying phases of a spreading code for the purpose of establishing a faster initial synchronization as taught by Sawahashi (FF 5).

Accordingly, we are not persuaded by Appellants' argument (App. Br. 13). The Examiner's articulated rationale (i.e., high speed synchronization) does support the rejection and possesses a "rational underpinning to support the legal conclusion of obviousness." *Kahn*, 441 F.3d at 988.

Accordingly, we will sustain the Examiner's rejection of claim 13 and, for similar reasons, the rejections of claims 14, 17, and 18.

CONCLUSION

The Examiner's articulated reasoning supports the conclusion that it would have been obvious to modify Figure 1 of AAPA so as to introduce a storage and control unit as taught by Sawahashi.

ORDER

The decision of the Examiner to reject claims 13, 14, 17, and 18 is affirmed.

AFFIRMED

babc

KATTEN MUCHIN ROSENMAN LLP
575 MADISON AVENUE
NEW YORK, NY 10022-2585